

**SUBJ: RUNWAY SAFETY PROGRAM**

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**1. PURPOSE OF THIS ORDER.** This order establishes procedures and assigns responsibilities for the Federal Aviation Administration's (FAA's) Runway Safety Program. The Runway Safety Program is intended to reduce the collision risks associated with runway incursions and surface incidents involving the runway environment.

**2. WHO THIS ORDER AFFECTS.** This order applies to all organizations in the agency that have a responsibility for runway safety.

**3. CANCELLATION OF THE PREVIOUS ORDER.** This order cancels FAA Order 721 0.58, National Runway Safety Program, dated June 30, 1999.

**4. EFFECTIVE DATE.** This Order is effective November 1, 2002

**5. EXPLANATION OF CHANGES.** Significant changes in this order include:

- a. Revising the responsibilities of the Office of Runway Safety and other FAA organizations that have a role in runway safety.
- b. Adding the requirement for a National Plan for Runway Safety, as well as regional plans for runway safety.
- c. Renaming Runway Incursion Action Teams and Surface Incident Prevention Teams as regional and local Runway Safety Action Teams. These teams produce plans called Runway Safety Action Plans. The order provides information on team composition, scheduling, and coordination in an appendix.
- d. Consolidating procedures for determining a runway incursion and supporting documentation, such as definitions of terms and clarifications, into an appendix.
- e. Adding a provision for program evaluation.

f. Adding an appendix on the severity categorization of individual runway incursions.

## **6. RESPONSIBILITIES OF THE OFFICE OF RUNWAY SAFETY (ARI).**

a. Office of Runway Safety. The Office of Runway Safety exercises overall responsibility for the agency's Runway Safety Program. These responsibilities cross agency organizational boundaries, and in carrying them out, the Office of Runway Safety-

- (1) Works with other FAA organizations and the aviation community to identify and implement activities and technologies designed to increase runway safety.
- (2) Develops, coordinates, and updates, as necessary, a comprehensive and cohesive runway safety strategy.
- (3) Coordinates and monitors activities to ensure established runway safety goals are met.
- (4) Determines which surface incidents are runway incursions.
- (5) Serves as the official agency source for runway incursion statistics.
- (6) Develops metrics to assist in understanding runway safety data.
- (7) Conducts evaluations, studies, and analyses to assess status and effectiveness of runway safety activities.
- (8) Allocates and administers funds necessary to achieve program objectives.

b. Director, Office of Runway Safety. The Director of the Office of Runway Safety provides executive leadership, management, and direction for the Runway Safety Program. A deputy director supports and assists the director and acts as the director in the director's absence. The director works with the regional administrators to ensure that the goals of the Runway Safety Program are achieved within their respective regions. The director also provides input to the regional administrators on the performance of their respective Regional Runway Safety Program Managers.

c. Division Manager, Runway Safety Integrated Team. The division manager-

(1) Manages a team of representatives from other FAA organizations that provide operational expertise to the program. These representatives are responsible for-

- (a) Coordinating runway safety activities within their organization.
- (b) Providing an operational perspective to runway safety activities.
- (c) Participating in runway safety activities that require interdisciplinary input.
- (d) Conducting program evaluations.

(2) Provides policy and national guidance to the Regional Runway Safety Program Managers on runway safety activities and objectives.

(3) Identifies and initiates activities to improve runway safety with emphasis on those that cross the responsibilities of two or more FAA organizations.

(4) Coordinates program activities with the Regional Runway Safety Program Managers.

d. Division Manager, Business and Technology Division. The division manager-

(1) Oversees and coordinates with FAA organizations existing and emerging technologies that the FAA can apply to runway safety.

(2) Administers the business aspects of the program and its affiliates in the regions, including overseeing budgets, performance planning, reports, and coordination of contractual actions.

(3) Manages and distributes runway safety materials, such as videotapes, brochures, and posters.

e. Lead Analyst, Data Team. The lead analyst collects, manages, analyzes, and reports data related to runway safety, including operational statistics and the status of program activities and objectives.

## 6. RESPONSIBILITIES OF OTHER FAA ORGANIZATIONS.

a. Associate Administrators. The associate administrators (as a minimum the Associate Administrators for Air Traffic Services, Research and Acquisition,

Regulation and Certification, and Airports) provide the resources and expertise to implement Runway Safety Program initiatives. These associate administrators support program activities designed to achieve agency runway safety goals—specifically those activities that are totally or partially within each associate administrator's organization as identified in the National Plan for Runway Safety and the regional plans for runway safety. In addition, the associates provide personnel, in the form of detail and collateral assignments, to the Office of Runway Safety at the national level and to the Regional Runway Safety Program Managers at the regional level. The associate administrators also ensure—

(1) At the national level, their organizations:

(a) Provide input on the National Plan for Runway Safety.

(b) Detail staff to work on a full-time basis in the Office of Runway Safety.

(c) Designate an executive level management official at headquarters to work with the Director of the Office of Runway Safety in resolving runway safety issues that involve their particular organizations.

(d) Negotiate with the Office of Runway Safety on action items in the National Plan for Runway Safety and commit to undertake the action items within their organizations' purview. The commitment will be made at the office director's (or equivalent's) level or above.

(2) At the regional level, each regional division manager (or designee) for the organizations identified:

(a) Assists the Regional Runway Safety Program Manager in developing a regional plan for runway safety that identifies the runway safety activities that will be undertaken in the region.

(b) Designates staff within the division to work with the Regional Runway Safety Program Manager on a collateral basis or, in some cases, on a full time detail. These individuals will comprise the region's Runway Safety Integrated Team.

(c) Designates a management official within the division to assist the Regional Runway Safety Program Manager in resolving runway safety issues that involve the division.

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<sup>1</sup> Some organizations like Air Traffic Service may have more than one division manager at the regional level, e.g., Air Traffic and Airway Facilities.

b. Assistant Administrator for System Safety (ASY-1). The assistant administrator supports the Runway Safety Program by providing information on runway safety events that are contained in the various databases maintained within the Office of System Safety.

c. Assistant Administrator for Regions and Center Operations (ARC-1). The assistant administrator manages and oversees, through the regional administrators, the Runway Safety Program in the regions.

d. Regional Administrators. Each regional administrator-

- (1) Oversees the runway safety activities in the region.
- (2) Serves as an advocate and spokesperson for the program within the region and fosters collaboration and support among the regional divisions,
- (3) Is the accountable executive in the region for runway safety activities?
- (4) Supervises the Regional Runway Safety Program Manager.
- (5) Evaluates the performance of the Regional Runway Safety Program Manager in coordination with the Director of the Office of Runway Safety and the Assistant Administrator for Regions and Center Operations and makes selections when vacancies occur.

e. Regional Runway Safety Program Managers. A Regional Runway Safety Program Manager is located in each regional office and manages the Runway Safety Program activities throughout the region. The Regional Runway Safety Program Manager-

- (1) Represents the regional administrator and the Office of Runway Safety on runway safety matters.
- (2) Coordinates and works with the regional management team members on runway safety program issues, activities, and objectives.
- (3) Manages the Regional Runway Safety Team. (Note: the Regional Runway Safety Program Manager manages those key members assigned to the team on a collateral basis only when they are performing runway safety duties).
- (4) Develops and implements the regional runway safety plan.
- (5) Prepares annual budget requests for headquarters support of regional runway safety activities and manages the program resources.

- (6) Reports expenditures of headquarters' funds on a quarterly basis using the database software directed by the Office of Runway Safety.
- (7) Analyzes data to identify regional runway safety trends and issues.
- (8) Initiates runway safety outreach activities, such as, participation in
  - (a) Pilot seminars.
  - (b) Air shows.
  - (c) Regional meetings with the aviation community.
  - (d) Regional Runway Safety Action Teams.
  - (e) State aviation conferences.
- (9) Prepares reports for the Office of Runway Safety on program activities, including regional Runway Safety Action Plans.
- (10) Coordinates program activities with the Manager (or designee) of the Runway Safety Integrated Team (ARI-1000). Regional program activities that require headquarters' financial support require additional coordination with the Manager of the Business and Technology Division (ARI-200).
- (11) Identifies, coordinates, and initiates activities to improve runway safety with emphasis on those that cross the responsibilities of two or more FAA organizations.
- (12) Measures the effectiveness of implemented recommendations (primarily resulting from Runway Safety Action Plans) to determine the reduction of runway incursions and surface incidents at airport locations.

## **7. NATIONAL PLAN FOR RUNWAY SAFETY.**

- a. The National Plan for Runway Safety (also known as the Runway Safety Blueprint) identifies activities and objectives the FAA will undertake to improve runway safety.
- b. The Office of Runway Safety-
  - (1) Develops the National Plan.
  - (2) Coordinates the plan during its development and subsequent revisions with affected FAA organizations at the national level and the Regional Runway Safety Program Managers.

(3) Seeks input from representative organizations in the aviation community.

c. The plan with its supporting documentation identifies various activities designed to improve runway safety. In addition to the activity description, the plan will include the following information:

- (1) The organization(s) responsible for the task.
- (2) Resources (staffing and funding) necessary to accomplish the task.
- (3) Source(s) of the resources, e.g., FAA organization(s), outside organization.
- (4) A time frame for accomplishing the work.
- (5) Proposed metrics for measuring the effectiveness of the activities.

a. The Office of Runway Safety will issue the plan in a printed format every 2-3 years and may provide updates to it anytime the need arises. The office will post any updates to its national website.

## **8. REGIONAL PLANS FOR RUNWAY SAFETY.**

a. Each region will have a regional plan for runway safety that identifies activities and objectives the region will undertake to improve runway safety. The regional plan will complement and be consistent with the National Plan for Runway Safety. The Regional Runway Safety Program Manager will develop the regional plan with the assistance of the regional runway safety team. The plan will emphasize activities and objectives that cross-traditional regional division responsibilities and will identify various activities designed to improve runway safety. In addition to the activity description, the regional plan will include the following information:

- (1) The organization(s) responsible for the task.
- (2) Resources (staffing and funding) necessary to accomplish the task
- (3) Source(s) of the resources, e.g., FAA organization(s), outside organization.
- (5) Proposed metrics for measuring the effectiveness of the activities

- b. The regional plan will identify the duties and time commitments expected from regional division representatives participating on the regional runway safety team as a collateral duty.
- c. The Regional Runway Safety Program Manager will coordinate the plan with and have it signed by the regional administrator and the regional division managers, and then sign and submit it to the Director of the Office of Runway Safety for approval.
- d. The regional plan, and the associated annual spend plan, is prepared on a fiscal year basis and will normally be available in October of each year. Detailed information is required for the upcoming fiscal year (aligned with the annual spend plan), along with a general planning outline covering an 18 to 36 month period. The Regional Runway Safety Program Manager will submit the plan to the Office of Runway Safety by September 15 of the year prior to the fiscal year for which it goes into effect, e.g., the plan for FY 2003 will be submitted by September 15, 2002. The Director of the Office of Runway Safety will have until October 15 to review and either approve or disapprove the plan. The Director of the Office of Runway Safety will send disapproved plans back to the region for revision.
- e. The Regional Runway Safety Program Manager and regional runway safety team shall reevaluate regional plans by March 31, and submit any proposed modifications to the approved plan to the Regional Management Team for concurrence and then to the Director of the Office of Runway Safety for approval.

## **9. RUNWAY SAFETY ACTION PLAN.**

- a. The regional or local Runway Safety Action Team will develop a Runway Safety Action Plan for each airport with an operational FAA Airport Traffic Control Tower or a Federal Contract Tower. You can find additional information on regional and local Runway Safety Action Teams in Appendix 1, Runway Safety Action Teams.
- b. Contents of the Runway Safety Action Plan The plan includes-
  - (1) A list of participants, their affiliations, and a general overview of the action team meeting.
  - (2) Runway safety concerns, issues, or problems at the airport These may include existing as well as prospective ones.
  - (3) Specific action items for activities and objectives designed to improve runway safety.



(4) A proposed implementation schedule, i.e., start and completion dates for each action item.

(5) The party/parties responsible for implementing each action item.

c. Action items. Action items should be airport specific and linked to a runway safety concern, issue, or problem at that airport. Action items may include changes in the physical features/facilities of the airfield, air traffic control procedures, airfield access requirements, and pilot/vehicle operator awareness. The action items should fall within the authority of the local or regional level. The Regional Runway Safety Program Manager should forward action items that require national implementation through the regional administrator to the Office of Runway Safety for consideration. The Regional Runway Safety Program Manager must coordinate action items for nonstandard facilities and procedures with the regional FAA organization that has the authority to grant waivers or modifications to the standard. The plan should not reflect such procedures until the appropriate organization grants approval.

d. Timing. The Regional Runway Safety Program Manager should complete the final Runway Safety Action Plan for a Regional Runway Safety Action Team within 45 days after the action team meeting. In the case of local Runway Safety Action Plans, the local air traffic facility manager should submit the plan to the Regional Runway Safety Program Manager within 45 days after the action team meeting.

e. Review. The Regional Runway Safety Program Manager reviews and approves Runway Safety Action Plans developed by regional and local Runway Safety Action Teams to ensure they meet the requirements of this order and associated standard operating procedures.

f. Implementation Status. The Regional Runway Safety Program Manager will enter the applicable information on action items contained in each Runway Safety Action Plan into the database established by the Office of Runway Safety within 30 calendar days of its receipt. The Regional Runway Safety Program Manager (or designee) must ensure that the information in the database is current and accurate.

## **10. RUNWAY INCURSION DETERMINATIONS, CATEGORIZATIONS, AND STATISTICS.**

a. The Office of Runway Safety reviews surface incidents and identifies those that meet the criteria to be classified as runway incursions. Appendix 2, Determination of Runway Incursions, describes these criteria. The office further categorizes the severity of those events determined to be runway incursions. Appendix 3, Runway Incursion Severity Categorization, contains

the guidelines used for categorizing these events. The Office of Runway Safety is the official agency source for all statistical information regarding runway incursions.

b. The Regional Runway Safety Program Manager may request that the Office of Runway Safety reclassify or recategorize an event if the program manager has additional information or data to submit not previously considered. The Regional Runway Safety Program Manager will be informed of the outcome of the headquarters' review of the request for reconsideration.

## **11. PROGRAM EVALUATION.**

a. Objective of the Evaluation. The Office of Runway Safety will conduct periodic program evaluations at the regional level. These evaluations determine program effectiveness, determine compliance with established program policies and procedures, identify strengths and weaknesses, and make recommendations for improvements.

b. Scope. These evaluations will be based on established procedures and responsibilities contained in this order, standard operating procedures, the National Plan for Runway Safety, and the individual region's plan for runway safety. All aspects of program operation and performance, including a review of files, documentation, and status of program objectives, will be examined as part of the evaluation. The Office of Runway Safety will develop a checklist of items that will be addressed in the evaluation and will give the list to the Regional Runway Safety Program Managers. The office may also interview regional and industry personnel who participate in program activities and personnel who have performance goals related to runway safety. The Director of the Office of Runway Safety (or designee) will select the members of the evaluation teams.

c. Scheduling of Evaluations. The office has a goal of evaluating each region on a triennial basis. A region will receive at least 60 days advance notice of a proposed evaluation. The evaluation will normally involve a visit to the region and may also include attendance at a Runway Safety Action Team meeting. The evaluation team will hold an entrance briefing with the regional administrator, the Regional Runway Safety Program Manager, the affected regional division managers, or the designees of any of the above members of Regional Runway Safety Team. The evaluation will conclude with an exit interview with these same parties.

d. Evaluation Report.

(1) The evaluation team will prepare a draft evaluation report and send it for comment to the Regional Runway Safety Program Manager and the regional administrator within 45 calendar days after the completion of the evaluation. The region will have 30 days to provide the Office of Runway Safety comments on the draft report.

(2) The Office of Runway Safety will consider the regional comments in finalizing the report. The office will send the final report to the Regional Runway Safety Program Manager and the regional administrator within 45 calendar days after the deadline date for regional comments on the draft.

(3) The Regional Runway Safety Program Manager will develop a plan to implement the recommendations in the evaluation report and submit it to the Office of Runway Safety within 45 days after receiving the final evaluation report.

A handwritten signature in black ink, appearing to read "Jane F. Garvey". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Jane F. Garvey  
Administrator



## APPENDIX 1. RUNWAY SAFETY ACTION TEAMS.

**1. PURPOSE.** A Runway Safety Action Team (RSAT) is established at either the regional or local level to develop a Runway Safety Action Plan for a specific airport. The RSAT's primary purpose is to address existing runway safety problems and issues. A secondary purpose is to identify and address potential runway safety issues. The differences between regional and local teams are explained below. RSATs operate in accordance with this order and standard operating procedures issued by the Office of Runway Safety.

**2. RSAT MATERIALS.** The Regional Runway Safety Program Manager (or designee) will provide each member of the RSAT with the following materials, as appropriate, prior to the RSAT meeting:

- a. The existing Runway Safety Action Plan and information on the current status of each action item contained in the plan.
- b. A listing and, if possible, a depiction of runway incursions and surface incidents (involving the runway) that have occurred at the airport during the last 4 years, accompanied by a narrative/information on each event.
- c. The current airport diagram for the airport
- d. If possible, actual or summaries of Aviation Safety Reporting System reports on surface events at the airport up to 3 years prior to the RSAT.

### 3. REGIONAL RSAT.

a. Regional Runway Safety Program Manager Responsibilities. The Regional Runway Safety Program Manager:

- (1) Establishes the RSAT
- (2) Schedules the RSAT meeting
- (3) Provides team members with the materials identified in Paragraph 2.
- (4) Facilitates the team meeting
- (5) Writes the Runway Safety Action Plan

(6) Coordinates with and obtains concurrence from team members and/or organizations that have been assigned action items in the plan.

(7) Transmits the final plan to the regional administrator, the regional division managers, the airport operator, and other RSAT members.

b. Team Composition. In addition to the people that would normally participate in a local RSAT, a regional RSAT will also have representatives from the FAA regional flight standards, air traffic, airports, airway facilities, and NAS implementation divisions. Regional industry representatives (i.e., persons that are not stationed at the airport), state aviation officials, and any other stakeholders determined by the Regional Runway Safety Program Manager shall also receive invitations to participate on the team. In addition, the team may also have members from FAA headquarters' and/or field offices.

c. Scheduling of Regional RSAT. The Regional Runway Safety Program Manager shall develop an RSAT schedule in cooperation with the Regional Runway Safety Team, labor representatives, as appropriate, and the airport operator. This schedule will include the regional Runway Safety Plan. Regional RSATs represent a major commitment of time and effort on the part of the agency and industry. In view of this commitment, the Regional Runway Safety Program Manager and Regional Runway Safety Team will judiciously propose locations for regional RSATs, and consider such issues as demonstrated runway safety problems and the results of previous RSATs at the location.

#### **4. LOCAL RSAT.**

a. Local Air Traffic Facility Manager Responsibilities. The local Air Traffic Facility Manager-

- (1) Establishes the RSAT.
- (2) Schedules the RSAT meeting.
- (3) Provides team members with the materials identified in paragraph 2.
- (4) Facilitates the team meeting.
- (5) Writes the Runway Safety Action Plan.

(6) Coordinates with and obtains signed concurrence from team members and/or organizations that have been assigned action items in the plan.

(7) Transmits the completed Runway Safety Action Plan to the Regional Runway Safety Program Manager for review and approval.

**Note:** If the RSAT is conducted at an airport with a Federal Contract Tower, the FAA Hub Manager having technical and support responsibilities for the Federal Contract Tower will ensure all necessary resources are available to carry out the local RSAT process.

b. Team Composition. The team will normally be comprised of people at the local level who represent the airport operator, the airlines, fixed base operators, other tenants, pilots, labor organizations, the local Airway Facilities office, and Air Traffic Control. RSATs will not always include, or need, representatives from the above-listed organizations. In some cases, invited organizations may choose not to participate. As a minimum, however, the team must have representatives from Air Traffic and the airport operator. Some organizations may have more than one representative on the team.

c. Scheduling of Team Meetings. A local RSAT meeting will be held no later than 24 months after the airport's last local or regional RSAT meeting. In the rare instances when a local RSAT cannot be scheduled within the 24-month period, the local Air Traffic Facility Manager may request an extension. This request must include applicable justification from the regional Air Traffic Division Manager (or designee). The regional Air Traffic Division Manager (or designee) shall inform the Regional Runway Safety Program Manager, in writing, of any extension granted under this paragraph.

## **5. COORDINATION AND SUBMISSION OF RUNWAY SAFETY ACTION PLANS.**

a. The persons identified in paragraphs 3a and 4a as responsible for the preparation of local and regional Runway Safety Action Plans, respectively, have 45 days from the completion of the RSAT meeting to-

(1) Prepare the plan. The plan cannot include items involving nonstandard procedures or airport facilities, e.g., signs, markings, and lights until the proper FAA approvals have been obtained.

(2) Coordinate the plan with other RSAT members.

(3) Obtain concurrence from team members or organizations having action items.

(4) Submit the plan to the Regional Runway Safety Program Manager for approval.

b. The Office of Runway Safety will consider the Runway Safety Action Plan a final plan upon submission to and acceptance by the Regional Runway Safety Program Manager.



## **APPENDIX 2. DETERMINATION OF RUNWAY INCURSIONS.**

### **1. RUNWAY INCURSION DEFINITION.**

In April 1987, the FAA Administrator approved the following definition of the term "runway incursion":

Any occurrence at an airport involving an aircraft, vehicle, person, or object on the ground that creates a collision hazard or results in a loss of separation with an aircraft taking off, intending to take off, landing, or intending to land.

### **2. CLARIFICATIONS FOR USE IN DETERMINING RUNWAY INCURSIONS.**

For the purpose of identifying runway incursions, an interdisciplinary FAA team defined the terms in the preceding definition in 1996, and made clarifications about the application of the definition. The agency's Safety Management Board, comprised of various associate administrators and chaired by the Assistant Administrator for System Safety, chartered the team. The clarifications made by the team included the following:

- a. Although the definition is broad, it was always intended that runway incursions include problems on the runway, but not on taxiways or ramps (in this case, the runway is considered that area intended for landing and takeoff and includes the runway as well as parts of taxiways located between the hold line and the runway).
- b. Runway incursions include events occurring only at airports with operating control towers since events at non-towered airports would not likely be reported.
- c. In order for an event to be a runway incursion, at least one aircraft, vehicle, pedestrian, or object involved, must be on the ground.
- d. Runway incursions should not include events involving aircraft, vehicles, pedestrians, or objects on the runway without permission when there is no collision hazard or loss of separation, nor should they include incidents involving animals. Although these and other similar unauthorized or unapproved movements occur on the airport surface, they are surface incidents, not runway incursions.

**3. DEFINITION OF TERMS.** The 1996 team (see paragraph 2) defined the following terms used in determining if an event is a runway incursion:

- a. Airport-Any airport having an operational Air Traffic Control Tower.
- b. Aircraft-Any FAA certificated device that is used or intended to be used for flight in the air.
- c. Aircraft Intending to Land-An aircraft that has been cleared to land by air traffic control, but has not yet crossed the runway threshold. (In May 1999, this definition was further clarified to stipulate that the aircraft intending to land had to be within 1 mile of the landing threshold.)
- d. Aircraft Intending to Take Off-An aircraft that has been cleared for take off by air traffic control but has not yet commenced the takeoff roll.
- e. Aircraft Landing-An aircraft that has crossed the landing threshold with or without air traffic control clearance.
- f. Aircraft Taking Off-An aircraft in the process of rolling down the runway for departure with or without air traffic control clearance.
- g. Collision Hazard-Any condition, event, or circumstance that could induce a surface accident or incident. Evasive action by the pilot, controller, or vehicle operator may or may not be taken.
- h. Loss of Separation-An occurrence or operation that results in less-than prescribed separation between aircraft, vehicles, or objects.
- i. Object-Any movable or stationary physical matter, e.g., aboveground structure, obstacle, debris, barrier.
- j. On the Ground-On the runway, including surfaces inside the holdline area.
- k. Person-Any human being.
- l. Surface Incident-Any event, including runway incursions, other than an accident, where unauthorized or unapproved movement occurs within the airport surface movement area or an occurrence in the airport surface area associated with the operation of an aircraft that affects or could affect the safety of flight.
- m. Vehicle-Any motorized or powered device, car, truck, tool, equipment, or other mechanical machine, e.g., sweeper, tug, mower, baggage truck, bus, people mover, snowplow, bicycle, emergency vehicle, nonpiloted aircraft.

## APPENDIX 3. RUNWAY INCURSION SEVERITY CATEGORIZATION

**1. PURPOSE.** This appendix explains how the Office of Runway Safety categorizes the severity of a collision associated with a runway incursion.

**2. HISTORY OF SEVERITY CATEGORIZATION.** The agency first undertook the effort to review and categorize the severity of runway incursions using data that occurred from 1997 through the year 2000. This categorization allowed the agency to improve its assessment of trends, and focus its efforts on the factors associated with severe events in which the margin of safety decreased to such a level that a collision is barely averted rather than on those events where the risk of collision is negligible. The agency continues to use these categories to assess the severity of runway incursions.

**3. FACTORS CONSIDERED IN CATEGORIZATION.** A runway incursion involves two parties; one of these parties has to be an aircraft and at least one of the parties has to be on the ground. The risk of collision associated with a runway incursion depends on the characteristics of their individual parties, their relative location to each other, and the knowledge of each other's location. Some of these factors include:

- a. The speed, performance, and maneuverability of the aircraft
- b. The distance between parties (horizontal and/or vertical)
- c. The location of the aircraft, vehicle, or object on the actual runway or on a taxiway inside the holdlines.
- d. The type and extent of evasive action
- e. Whether the party on the ground was stopped or moving.
- f. Knowledge of the other party's location
- g. Visibility conditions
- h. Time of day, e.g., night versus day.
- i. Runway conditions, e.g., wet, snow covered
- j. Status of radio communications.

**4. ASSESSMENT TEAM.** The preceding factors are all interrelated and the significance of any one factor depends on the circumstances surrounding the particular incursion. For this reason, a skilled multi-disciplined aviation team needs to determine the significance of the factors in view of the circumstances surrounding the incursion. In order to assign a severity category to the incursion, the team needs to reach a consensus. Whenever the team cannot reach consensus, the Manager of the Integrated Products Team, ARI-100 (or designee), will assess the data, render a classification decision, and advise the team.

## **5. SEVERITY CLASSIFICATIONS.**

a. Category "A". Separation decreases and participants take extreme action to narrowly avoid a collision, or the event results in a collision. These runway incursions are typified by: the immediate need for corrective action by ATC and/or evasive action by a flight crew, or the lack of corrective/evasive action. The collision either occurs or is narrowly avoided by chance. These runway incursions are characterized by events, with at least one aircraft traveling at a high speed or speed sufficient to cause substantial damage with the potential for injury or fatalities.

b. Category "B". Separation decreases and there is a significant potential for a collision.

Level B events are characterized by the need for a time-critical corrective/evasive action that was, or could have been, taken by ATC or the flight crew. These situations are typified by critical errors, which under different circumstances or aircraft performance or the timing of air traffic control clearances or instructions, could have led to a barely avoided collision.

c. Category "C". Separation decreases, but there is ample time and distance to avoid a potential collision.

In cases where no corrective action was taken, the collision risk is reduced by a significant level based on available time, distance, margin, and aircraft performance. These situations are typified by critical errors, which under different circumstances or aircraft performance, or the timing of ATC clearances or instructions, could have led to a higher potential for collision. Participants in these incidents usually do not come in close proximity at high speed.

d. Category "D". Little or no chance of a collision but meets the definition of a runway incursion.